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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/836,368	04/18/2001	Naosato Taniguchi	2369.12215	6893
5514	7590	09/13/2004	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO			CHANG, AUDREY Y	
30 ROCKEFELLER PLAZA			ART UNIT	
NEW YORK, NY 10112			PAPER NUMBER	

2872

DATE MAILED: 09/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/836,368

Applicant(s)

TANIGUCHI ET AL.

Examiner

Audrey Y. Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,6,7,9-16,18,20,22,29,31,32 and 34 is/are pending in the application.
- 4a) Of the above claim(s) 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,6,7,9-16,18,20,22,29,31,32 and 34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Remark

- This Office Action is in response to applicant's amendment filed on June 23, 2004, which has been entered into the file.
- By this amendment the applicant has amended claims 1 and 29 and has canceled claim 26.

Election/Restrictions

1. Claim 1 is generic and potentially allowable, (upon the pending of the double patenting rejections set forth in the paragraph below). Accordingly, the restriction requirement as to the encompassed species is hereby withdrawn and *claims 6-7, 9-12, 14 and 34*, directed to the species of using polarization scheme, (Figure 12) no longer withdrawn from consideration since all of the claims to this species depend from or otherwise include each of the limitations of an allowed generic claim. However, *claim 8*, directed to the species of Figure 20 remain **withdrawn** from consideration since it recites the feature having part of the modulator being placed in front of the display device that is in direct contradiction of potentially allowable generic claim 1, (please see 37 CFR 1.141).

In view of the above noted withdrawal of the restriction requirement as to the linked species, applicant(s) are advised that if any claim(s) depending from or including all the limitations of the allowable generic linking claim(s) be presented in a continuation or divisional application, such claims may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Once a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 44 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

2. Claims 1, 4, 6, 7, 9-12, 13, 14, 15-16, 18, 20, 22, 24, 29, 31, 32 and 34 remain pending in this application.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. **Claims 6-7, 9-12 and 34 are rejected under 35 U.S.C. 112, first paragraph**, as based on a disclosure which is not enabling. The **proper polarization scheme** of the synthesized image displayed on the display device **in corresponding to the first phase shift member and a patterned polarized** optical element having orthogonal polarization states at different regions are critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). The applicant is respectfully noted that by having a “first phase shift member and a polarized optical element having a part for transmitting only predetermined polarized light” as recited in claim 7 WILL NOT make the system able to create stereoscopic image display. It is known in the art that the left eye and right eye image stripes of the synthesized *must be polarized in orthogonal state*, respectively, and the modulator must include a polarized optical element that has a *patterned regions* of orthogonal polarization states *corresponding to* the left eye and right eye *polarized* image respectively, such that the phase shift member then causes the polarization states of the left eye and right eye polarized image light be shifted between two different states and in corresponding to the polarized optical element with the patterned polarized regions will then serve as *the light transparent sections and light shielding sections* to the image lights respectively. In this manner, claims 6 and 12 do not enable the stereoscopic image display in the polarization scheme. Since using a single polarization plate to make the synthesized image including the left eye and right eye images has a single polarization state WILL NOT allow stereoscopic image display.

Claim Objections

5. Claims 1, 4, 6-12, 13-16, 18, 20, 22, 29, 31-32 and 34 are objected to because of the following informalities:

(1). **Claims 1 and 29 have been amended** to recite the feature that the first and second optical systems are of lenticular lenses, which then makes the apparatus **inoperable** if the modulator just have a **light transmitting section and a light shielding section**. The specification and the Figures show that the modulator must have **“a plurality of light transmitting sections and a plurality of light shielding sections”** in order for the image lights from a plurality of image stripes to be directed to the observer in order to see the stereoscopic image. In similar manner, there must be *a plurality of phase shift regions* on the second phase shift member (of claim 11) and **more than a part** on the polarized optical element (of claim 7) to allow certain polarized light to be transmitted.

(2). Claims 6 and 12 are incomplete since it is not clear what are **the logical relationships** between the *“predetermined polarized light”* recited in claim 6 and the *“polarizing plate”* recited in claim 12 with regard to the elements recited in their based claim (claim 1) to make the apparatus an operable stereoscopic image display apparatus. The scopes of the claims concerning the features recited in the claims are not clear to make them a definite part of the limitations.

(3). The phrase *“a part for transmitting only predetermined polarized light”* recited in claim 7 is confusing and indefinite since it is not clear what is considered to be the *“part”* and it is not clear how does this polarized optical element related to the *“phase shift”* of the first phase shift member to make it possible to *“transmit”* light of certain polarized light. It is known in the art that **ONLY** the phase shift that causes **POLARIZED** light to shift between two polarized states and having the polarized optical element with polarization state matching the polarization state of the light will allow the light to be transmitted.

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(4). The phrase "alternatively arranging two polarization plates on which optical axes are perpendicular to each other in horizontal direction in a stripe pattern that is long in the vertical direction" recited in claim 9 is confusing and indefinite. It is not clear what does it mean by "perpendicular to each other in the horizontal direction".

(5). The phrase "a second phase shift member having a region providing π phase shift on the transmitted light and a region providing no phase shift on the transmitted light" as recited in claim 11 is confusing and indefinite.

Appropriate correction is required.

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1, 4, 13-14, 15-16, 18, 20, 22, 24, 29, 31 and 32 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5, and 7-24 of copending Application No. 09/772,989 in view of the patents issued to Mashitani et al (PN. 5,663,831) and PCT patent publication of Callan (WO 95/05052).

The instant application and the co-pending application (09/772,989) both disclose a *stereoscopic image display* (the method is implicitly included in the apparatus disclosure since the method is nothing but applying the apparatus) that is comprised of an image display device for displaying *synthesized* images, a second optical system for directing and forming the images from the display device on light transmitting sections and light shielding sections formed within an optical *modulator* or on a *mask* (having opening and shielding regions for passing or shielding the image light), and a first optical system for collecting the image light from the light transmitting sections to an observation surface, (please see Figure 1 of the instant application and Figure 1 of the cited patent). The only difference is that the instant application recites the light transmitting sections and the light shielding sections are formed on a modulator, wherein the modulator as disclosed in the instant application may include electro-optic device. However using electro-optic modulator as a mask to form patterned light transmitting and light shielding sections is quite well known in the art as demonstrated by the teachings of **Mashitani** et al wherein a parallax barrier (50, Figure 7) having mask pattern of slits (5a) (i.e. light transmitting sections) and barriers (i.e. light shielding sections) for use in a stereoscopic image display system is constructed by using a *liquid crystal element* (known type of electro-optic modulator) (50, Figure 7, column 5, lines 56-67). It would then have been obvious to one skilled in the art to modify the mask of the co-pending application (09/772,989) by forming the mask pattern on an optical modulator such as liquid crystal element for the benefit of providing electronic control to the mask pattern and more easily manipulating and changing the mask pattern as desired.

Claims 1 and 29 have been amended further to include an image forming device for controlling the *order* of the synthesized images displayed on the display device that is switched between opposite order in synchronized with the switching and changing of light transmitting and light shielding sections on the modulator. **Callan** in the same field of endeavor teaches a stereoscopic image display wherein the order of synthesized image displayed on the display device can be switched between two

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opposite orders and the switching is synchronized with respect to the switching of light transmitting and light shielding sections on the variable shutter components in order to achieve stereoscopic image display. It would then have been obvious to one skilled in the art to apply the teachings of Callan to modify the stereoscopic display of co-pending application (09/772,989) for the benefit of allowing different order of stereo image pair being displayed.

The instant application and the co-pending application (09/772,989) therefore are not patentably distinct from each other.

This is a provisional obviousness-type double patenting rejection.

Response to Arguments

8. Applicant's arguments filed June 23, 2004 have been fully considered but they are not persuasive. The newly amended claims have been fully considered and they are rejected for the reasons stated above.

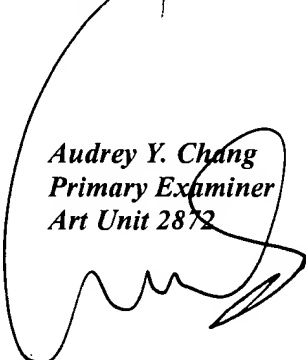
9. The applicant is respectfully noted that a ***terminal disclaimer*** should be filed in order to overcome the double patenting rejections.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 571-272-2309. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Audrey Y. Chang
Primary Examiner
Art Unit 2872

A. Chang, Ph.D.